

## NOTES ON BROMELIACEAE, XXXVII

Lyman B. Smith and Robert W. Read

In the hope of insuring continuity and gaining greater exactness we have combined operations without changing the enumeration of the senior author. We are dividing the present paper by subfamilies because of their relation to the overall monograph. The Pitcairnioideae were published as Monograph No. 14 of Flora Neotropica on October 14, 1974, and therefore it is too late to include anything there. The Tillandsioideae are not yet complete but the keys are done and frozen from further change because of their great size and complexity. However, it is still possible to add new species in an addendum and to indicate their position by an appropriate numeral and letter. The Bromelioideae for the monograph are barely begun and until further notice all species may be included in both descriptions and keys.

### PITCAIRNIOIDEAE

5-24a. *COTTENDORFIA LATERALIS* L. B. Smith & R. W. Read, sp. nov. Ab omnibus speciebus adhuc cognititis inflorescentiis pluribus lateralibus vel inflorescentia singulare cum scapi bracteis et bracteis primariis foliaceis maximis differt.

PLANT flowering 1 m high (! Steyermark). LEAVES 4-5 dm long; sheaths suborbicular, inconspicuous; blades narrowly triangular, 4 cm wide, flat, coriaceous (! Steyermark), laxly serrulate toward base, appressed-white-lepidote beneath at base, elsewhere entire and glabrous. SCAPE (or stem ?) erect, leafy. INFLORESCENCES lateral in leaf-axils (! Steyermark) or branches (?) to 20 cm long, very laxly tripinnate, glabrous; primary (or secondary ?) bracts inconspicuous, shorter than the sterile bases of the better developed branches; axes slender. FLORAL BRACTS ovate, acuminate, 4 mm long; pedicels spreading, slender, to 11 mm long. SEPALs broadly ovate, obtuse, 4 mm long, dull lavender (! Steyermark); petals suborbicular, 7 mm long (immature). Pl. 1.

VENEZUELA-BRAZIL frontier: Headwaters of Cañon Grande, southeastern portion, Cerro de la Neblina, 1900 m alt, 16-17 October 1970, Steyermark 104014 (US, holotype; NY, VEN, isotypes).

6-1. *DEUTEROCOHNIA LONGIPETALA* (Baker) Mez, Mart. Fl. Bras. 3 (3): 506, pl. 95. 1894; L. B. Smith & Downs, Fl. Neotrop. Mon. 14: 233, fig. 86. 1974.

BRAZIL: BAHIA: Arid habitat between the Espirito Santo boundary and Feira de Santana or perhaps Salvador, but without exact locality, September-October 1965, R. G. & C. Wilson 65-690 (US), cultivated and flowered in Costa Rica in 1972; Read & Daniels 74-97, cultivated from Wilson 65-690 (US).

Wilson is positive of the origin of this specimen and although it is a tremendous disjunct range, the Peruvian disjunct of the species is considerable and there are other instances.

In an attempt to accurately identify this newly reported collection certain characters were given careful consideration as perhaps of specific importance. However, it was determined that sepal margins varied from serrulate in this specimen and those of Peru and Bolivia to completely entire in the Argentine specimens. Sepal length proved to be quite variable also, as did the relationship between sepal length and internodes. Considerably more field work is required in order to clarify the distinctions between *D. longipetala* and *D. meiziana*.

8-163a. *PITCAIRNIA REFLEXIFLORA* André var. *MINOR* L. B. Smith & R. W. Read, var. nov. A var. *reflexiflora* sepalis subdimidio minoribus differt.

Sepals not more than 6 mm long.

ECUADOR: CAÑAR: Tropical cloud forest, km 110 from Duran, 1300 m alt, 15 January 1962, Dodson & Thien 2097 (WIS, holotype; US, isotype).

8-19a. *PITCAIRNIA SASTREI* L. B. Smith & R. W. Read, sp. nov. A *P. platypetala* Mez, cui verisimiliter affinis, foliorum laminis utrinque glabris, petalis angustioribus differt.

PLANT stemless, flowering 12-40 cm high. LEAVES rosulate, glabrous at least with age; sheaths ovate, entire, dark castaneous; some reduced to dark pectinate-serrate spines with filamentous entire apices, others green, linear, filiform-attenuate, narrowed toward base, ca. 1 m long and much exceeding the inflorescence but soft and pendent, to 25 mm wide, channeled, entire. SCAPE erect, slender, white-araneose; scape-bracts erect, exceeding the internodes but narrowly triangular and largely exposing the scape, filiform-attenuate, white araneose. INFLORESCENCE simple, lax, few-flowered, to 12 cm long, white-araneose except the petals; axis slender. FLORAL BRACTS like the upper scape-bracts, greatly exceeding the pedicels; flowers suberect; pedicels very slender, to 15 mm long. SEPALS narrowly lanceolate, acute, 20 mm long, equally carinate toward base with the keel decurrent on the ovary and pedicel; petals appendaged; ovary ca. 2/3 superior. SEEDS narrowly alate. Pl. 2.

BRAZIL: AMAPÁ: South slope of Cerro Paloulouimémpu, Serra de Tumaque-Humaque, cliffs, 600 m alt, 2 Aug 1972, C. Sastre 1550 (US, holotype; P, isotype).

FRENCH GUIANA: At 1 km at 1<sup>o</sup> W-NW of Toukouchipann, wet shady vertical granite cliffs, very abundant, ca. 500 m alt, 20 Aug 1972, Granville 1316 (P, US photo).

8-35a. *PITCAIRNIA SCHUNKEI* L. B. Smith & R. W. Read, sp. nov. A *P. corallina* Linden & André et *P. sprucei* Baker, quibus affinis, foliorum majorum laminis late obovatis integris subtus dense lepidotis, bracteis florigeris parvis differt.

PLANT stemless. LEAVES polymorphic, the outermost with small orbicular densely castaneous-lepidote sheaths and short linear pectinate serrate blades, grading upward into entire bladeless elliptic sheaths, the innermost leaves photosynthetically

functional, 1-2.3 m long, much exceeding the inflorescence, entire; petioles distinct, elongate; blades broadly obovate, rounded and apiculate, 13 dm long, 15 cm wide, covered with white appressed scales beneath, glabrous above. SCAPE erect, 20 cm long, brown-lepidote; scape-bracts imbricate, ovate, mucronate, covered with pale brown-centered scales. INFLORESCENCE essentially simple (one pedicel appearing 2-flowered), subulax, 25 cm long; rhachis straight, brown-lepidote. FLORAL BRACTS ovate, acuminate, about equaling the upper pedicels, densely pale-lepidote before anthesis; pedicels rather stout, ca. 1 cm long; flowers divergent, arcuate at anthesis, deep orange-red (! Schunke). SEPALS oblong-lanceolate, acute, 23 mm long, ecarinate, strongly nerved, glabrous; petals 7 cm long, appendaged; ovary ca.  $2/3$  superior; ovules obtuse. Pl. 3.

PERU: SAN MARTIN: Mariscal Caceres: Tocache Nuevo: Deep shade of high riverbank forest, mouth of Río Mishollo, right bank of Río Huallaga, 6 September 1971, J. Schunke V. 4995 (US, holotype; F, isotype).

8-66a. PITCAIRNIA WILBURIANA Utley in Smith & Read, sp. nov. A P. dendroidea André, cui valde affinis, ramis elongatis laxe florigeris, sepalis omnino glabris differt.

PLANT caespitose (! Wilbur), flowering at least 1 m and probably nearer 2 m high. LEAF (only one known) over 15 dm long; sheath unknown; blade linear, attenuate to base and apex, 35 mm wide, entire, covered with white appressed scales but becoming glabrous. SCAPE straight, ca. 5 mm thick at apex, soon glabrous; upper scape-bracts ovate, acuminate, over 4 cm long, much shorter than the internodes, white-lepidote. INFLORESCENCE laxly compound, 66 cm long, soon glabrous; primary bracts like the upper scape-bracts, shorter than the sterile bases of the branches; branches simple, spreading-ascending, the lateral to 26 cm long, the terminal to 48 cm long. FLORAL BRACTS lanceolate, acute, distinctly shorter than the slender 7-12 mm long pedicels, thin, entire; flowers (upwardly ?) second, lax, bright yellow (! Wilbur). SEPALS narrowly oblong, rounded and apiculate, 17 mm long, ecarinate; petals 4 cm long, appendaged; ovary ca.  $2/3$  superior; ovules long-caudate. Pl. 4.

GUATEMALA: BAJA VERAPAZ: common terrestrial, banks of stream bed with heavy deciduous woods about 3 miles north of Chilascó in mountains east of Salamá and San Geronimo, 23 May 1971, R. L. Wilbur 14783 (DUKE, holotype; US, photo).

#### TILLANDSIOIDEAE

TILLANDSIA SUESCANA L. B. Smith, U. S. Nat. Herb. 29: 441, fig. 45, a, b. 1951.

VENEZUELA: TÁCHIRA: El Cobre, Río Táchira Valley, 15 January 1973, Cuatrecasas, Ruiz-Teran & López-Figueiras 28300, 28302 (US, VEN).

That this is a new record for Venezuela is not surprising since Táchira adjoins Norte de Santander of Colombia the previous eastern limit for the species.

VRIESEA HATSCHBACHII L. B. Smith & R. W. Read, sp. nov. A V. goniorachidi (Baker) Mez, cui in systemate artificiali valde affinis, scape elongato subrecto, scapi bractearum laminis dissite lepidotis, bracteis florigeris ex sicco nervatis haud carnosus, floribus haud secundis differt.

PLANT known only from old fragments, flowering over 14 dm high. LEAVES unknown, but undoubtedly like the lower scape-bracts only larger. SCAPE erect, very slightly flexuous, glabrous at least in age; scape-bracts erect and closely enfolding the scape, sparsely and obscurely lepidote, the lower imbricate, with ovate sheaths ca. 7 cm long and very narrowly triangular blades to 75 cm long, the upper merely acute and shorter than the internodes. INFLORESCENCE simple, laxly and distichously many-flowered, over 30 cm long, ca. 3 cm wide, glabrous at least with age; rhachis 5-7 mm thick at base, slightly flexuous. FLORAL BRACTS erect or suberect, ovate, broadly rounded and apiculate, to 4 cm long, from shorter than the internodes to nearly twice as long, distinctly exceeded by the sepals, convex, ecarinate, thin-coriaceous and nerved when dry; pedicels distinct, ca. 7 mm long; flowers erect, not at all secund. SEPALS elliptic, obtuse (?), 25 mm long, ecarinate; petals and stamens unknown. Pl. 5.

BRAZIL: MINAS GERAIS: Mun. Gouveia: side of rock hill by Highway BR259, 21 January 1972, Hatschbach, Smith & Ayensu 29085 (US, holotype; Mus. Bot. Mun. Curitiba, isotype).

VRIESEA SUCREI L. B. Smith & R. W. Read, sp. nov. A V. biguassuense Reitz, cui in systemate artificiali affinis, bracteis florigeris angustis, subduplo majoribus et sepala multo excedentibus differt.

PLANT flowering at least 75 cm high. LEAVES many, rosulate, 50 cm long, obscurely punctulate-lepidote; sheaths ovate, to 10 cm long; blades ligulate, acute, contracted toward base, to 20 mm wide. SCAPE erect, slender; scape-bracts imbricate, ovate, the lower laminate, the upper apiculate. INFLORESCENCE simple, lax, oblong, 27 cm long, strongly complanate, very laxly and obscurely lepidote; axis slightly flexuous, slender, narrowly alate, purple. FLORAL BRACTS divergent, narrowly ovate, to 55 mm long, much exceeding the sepals, sharply carinate, incurved at apex, thin, nerved when dry, red; pedicels slender, ca. 10 mm long; flowers distichous, erect. SEPALS oblong, rounded and apiculate, 3 cm long, thin, nerved, the posterior carinate; petals and stamens unknown. CAPSULES about equaling the sepals. Pl. 6.

BRAZIL: RIO DE JANEIRO: Terrestrial in shade, swampy restinga (coastal thicket), Cabo Frio, 8 October 1968, Sucre 3808 (US, holotype). In cultivation by Ruby Braga.

#### BROMELIOIDEAE

✕CRYPTBERGIA hort ex R. G. & C. Wilson. Pl. 7.

According to the International Code of Botanical Nomenclature (1971) intergeneric hybrids (i.e., hybrids between species of

two or more genera) are designated at the generic level by either a formula or, wherever it seems useful by a "generic name" (Art. H. 7). The formula, when used, consists of the name of the two or more parents connected by the multiplication sign (X). (e.g., Cryptanthus X Billbergia).

In order to understand the valid publication of botanical names in Latin form for hybrids, it must be clearly understood that the rules covering the "generic names" are distinct and different from those regulating names of specific or lower rank (Art. 40 ICBN).

If a "generic name" for the bigeneric hybrid is found to be useful or necessary, it is formed by combining the names of the two parent genera, i.e., the first part or the whole of one name and the last part or the whole of the other, into a single word (Art. H. 7), as in the cross between Cryptanthus (Crypt-) and Billbergia (-bergia), and preceded by the multiplication sign to form X Cryptbergia, a condensed formula.

All hybrids (regardless of the species involved) between the same two genera bear the same "generic name".

In order to be validly published, the "generic name" of a hybrid with the rank of genus (which is a condensed formula or equivalent to a condensed formula) must be published with a statement of the names of the parent genera (Art. H. 9). No description or diagnosis is necessary, whether the name is in Latin or in any other language. Naturally, the Code provides that the earliest validly published name must be the one used, unless there is an earlier name, with the same spelling, for a different taxon.

The earliest mention found so far of a bigeneric hybrid between Cryptanthus and Billbergia was in an article by Mulford Foster (Brom. Soc. Bull. 2: 67) in 1952 where he stated, "It is believed that the first bi-generic cross [with Cryptanthus] was made by Theodore L. Mead when he succeeded in hybridizing C. beuckerii with Billbergia nutans." The cross was next mentioned by Victoria Padilla (Brom. Soc. Bull. 6: 47. 1956) as "Billbergia X Meadii". The following year "Cryptbergia Meadii" appeared in a listing of plants in a private collection by Peter Temple (Brom. Soc. Bull. 7: 52). In 1958 "X Cryptbergia Meadii" appeared in a caption to a photograph (Brom. Soc. Bull. 8:) on p. 34 and in lists of plants on pages 40 and 42 of the same fascicle. Almost a year later, in a listing of prizes awarded in a local combined bromeliad and orchid show, a prize was cited for "Mrs. C. S. Inman for her Cryptbergia meadii rosea . . ." (Brom. Soc. Bull. 9: 32. 1959).

In his "Zimmerpflanzen ..." (1962) Walter Richter listed both (p. 279) "Cryptbergia meadii" and "C. rubra", including the parentage of each and a description in German. We cannot accept this as valid publication of the "generic name" because the basic principles of the International Code of Botanical Nomenclature were not really met. The Code provides that a generic name (or one of generic rank) must be treated independently except in the case of monotypic genera, rather than being used incidentally as



part of invalid combinations in an enumeration of species. The following year (1963) "Bromeliads in Cultivation", by Bob and Catherine Wilson, included a chapter on hybrids (Vol. 1, p. 85) wherein they stated "Cryptbergia (sometimes referred to as "Billtanthus") is a hybrid genus of crosses made between Cryptanthus and Billbergia." Thereby satisfying for the first time (to our knowledge) all the requirements for valid publication of the bigeneric hybrid.

In not one of the previously cited examples is there a valid publication of the "species" (grex) or cultivar name. The International Code of Nomenclature of Cultivated Plants - 1969 (Art. 13) states that "names in Latin form for interspecific (and intergeneric) hybrids and their derivatives are governed by the Botanical Code" (see also Article 40 and H-9 of the Botanical Code). Article 17 of the ICNCP (International Code of Nomenclature of Cultivated Plants - 1969) clearly states that a collective epithet at the species or lower rank in Latin form of a hybrid must be published with a Latin diagnosis and in combination with a generic name. It is subject to the Botanical Code. The present authors have not found a case where these criteria are met.

There appears to have been considerable confusion (or little regard) for the distinction between a hybrid "collective name" (the name in Latin, or modern language, which applies to all progeny of a particular cross, be it interspecific or intergeneric) and a "cultivar" (the name which applies solely to a selected clone or an inbred line of seed-produced plants exhibiting characters by which they are differentiated from other cultivars). It seems not at all clear in much of the literature whether the intent is to give a collective name for the cross or to be naming a single plant or selection from the progeny of a particular cross. This distinction is rather important for purposes of citation and should be made perfectly clear on publication.

Collective epithets (ICNCP Art. 15) in Latin form are always to be preceded by the multiplication sign  $\times$ . Those in modern language are not, but may be put in parentheses if followed by a cultivar name. They are not enclosed within 'single' quotes nor italicized whether Latin or in modern language. The use of the word grex (or g.) following the collective name would help to clarify the situation. Cultivars, on the other hand, are either enclosed within 'single' quotes or preceded by cv., the abbreviation for cultivar (Art. 29), but not by  $\times$ . Capital initial letters must be used for all words of a cultivar name, except (ICNCP Art. 29) when linguistic usage demands otherwise. Double quotation marks ". ." must not be used to distinguish cultivar names.

$\times$  Cryptbergia is known to have resulted from two different crosses; (Cryptanthus beuckeri  $\times$  Billbergia nutans) and (Cryptanthus bahianus  $\times$  Billbergia nutans). The first cross has been known in the literature as  $\times$  Cryptbergia meadii, but since the epithet is in Latin form it was never validly

published, as it always lacked a diagnosis or description in Latin. Furthermore it is not entirely clear if the epithet, variously cited as *meadii*, ~~X~~ *meadii*, *Meadii*, and finally as 'Mead', was intended to be a collective epithet or a cultivar. It would seem they were attempts to cite the name of a cultivar or clone resulting from the original cross, plants of which are still recognizable in cultivation, or else they were attempts to treat the cross as is done in the Orchids. The junior author feels that the naming of crosses (collective epithets) does not have the same importance as in the Orchidaceae and therefore strongly suggests the naming of selected forms only as cultivars. Plants derived from the same cross which are not worthy of a separate cultivar name should be destroyed and not introduced into the trade.

The International Code of Nomenclature of Cultivated Plants - 1969 specifies that "A cultivar name published on or after 1 January 1959, must except as noted . . . be a fancy name, that is, one markedly different from a botanical name in Latin form." The publication of ~~X~~ *Cryptbergia* 'Mead' with the citation of its collective formula (parentage) and a representative description by Victoria Padilla in 1973 seems to fit all requirements for valid publication of the original cultivar; the citation of *C.* 'Rubra', in Latin form, does not. We would like to name the second cultivar 'Red Burst'.

~~X~~ *Cryptbergia* hort. ex Wilson & Wilson, *Bromeliads in Cultivation*, Vol. I, p. 85. 1963.

~~X~~ *C.* (*Cryptanthus beuckeri* ~~X~~ *Billbergia nutans*) 'Mead' Mead ex Padilla, *Bromeliads*, p. 126. 1973.

~~X~~ *C.* (*Cryptanthus bahianus* ~~X~~ *Billbergia nutans*) 'Red Burst' L. B. Smith & R. W. Read, new cultivar.

A wide open, reflexed rosette of deep bronze-red leaves, producing numerous offsets, the leaves smooth and glossy above but gray scaly beneath. The bronze color intensifies in strong light. A short cluster of small flowers rises from the center of the rosette.

*HOHENBERGIA GUATEMALENSIS* L. B. Smith, *Lilloa* 6: 382. 1941.

Except for the original collections in April of 1939 by Paul C. Standley, in Guatemala, nos. 71169 (F, type; photos GH, US), 71364 (F; photos GH, US) only one other collection of this species has been known to the authors. The second collection was made in April 1957 by M. B. Foster and O. C. Van Hynning (no. 3003, US) in the state of Vera Cruz, Mexico. Recently Eloise Beach sent to us a specimen (74-107) which we have identified as this species. Since the original collection lacked certain critical information regarding flowers at anthesis the following is meant to amend the original:

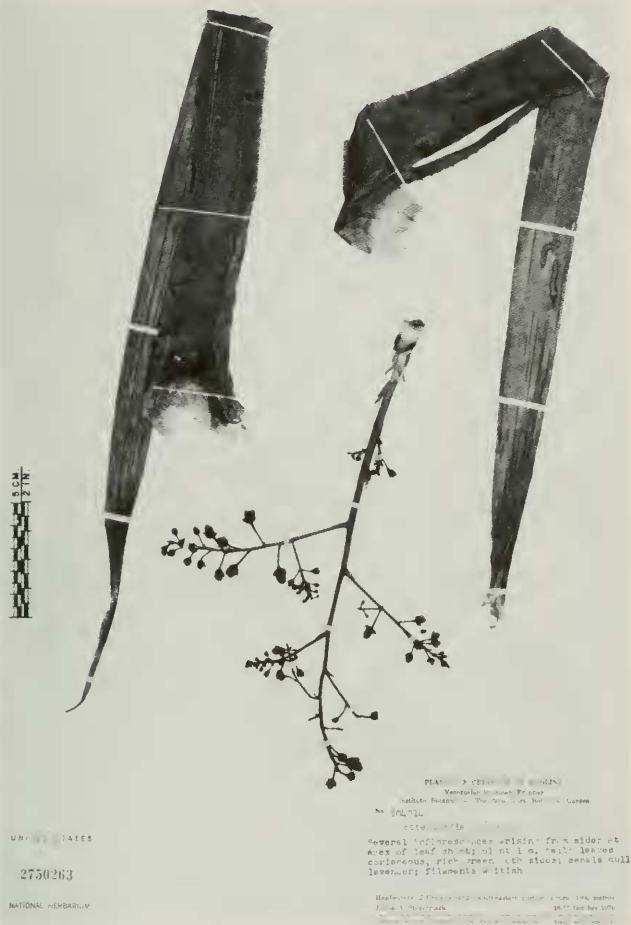
PLANT flowering ca. 1 m high. LEAVES many, rosulate, 1 m or longer; blades acute or acuminate, lightly lepidote beneath, serrate with mostly antrorse 1 mm long teeth. SCAPE erect to curved, ca. 5 dm tall, densely tan-lanate; scape-bracts densely imbricate, with blades shorter than their bases, apparently disintegrating by anthesis. INFLORESCENCE erect to arching,

bipinnate or basally tripinnate, to 5 dm long; spikes 1-5 cm long. FLORAL BRACTS densely tan-lanate abaxially, becoming glabrous. SEPALS distinctly asymmetric, 5-8 mm long, at first lanate at apex; petals ca. 7 mm long, imbricate apically (blades), valvate to closely adherent in lower half (claw), but free basally and exposing the base of the filament ring, blue at anthesis, turning violet and then red with age, appendages absent or represented by inconspicuous folds in the basal to mid portion of the petal; stamens included, the anthers laterally to introrsely dehiscent about the stigma which is slightly lower than the apices of the anthers, the filaments connate basally and adnate basally to the petals; ovary lanate to glabrate basally especially at the junction with the axis; ovules apparently few, short-caudate at anthesis.

United States National Museum, Washington, D. C., U.S.A.



## Plate 1



Cottendorfia lateralis Smith &amp; Read

Plate 2



Pitcairnia sastrei Smith & Read

Plate 3



Pitcairnia schunkei Smith & Read

## Plate 4

*Pitcairnia wilburiana* Uteley

Plate 5



Vriesea hatschbachii Smith & Read



## Plate 6



Vriesea sucrei Smith &amp; Read

## Plate 7



X Cryptbergia 'Mead' hort. ex Wilson